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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MOTOROLA INC 600 NORTH US HIGHWAY 45 ROOM AS437 LIBERTYVILLE, IL 60048-5343			EXAMINER DIVECHA, KAMAL B	
			ART UNIT 2151	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/874,837

Applicant(s)

PHILLIPS, W. GARLAND

Examiner

KAMAL B. DIVECHA

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-5, 7-12 and 14 are pending in this application.

Claims 6 and 13 are cancelled in this application.

Response to Arguments

Applicant's arguments filed February 20, 2007 with respect to above claims have been fully considered but they are not persuasive.

In response filed, applicant argues in substance that:

- a. Neither Crandall, nor Toporek describe or suggest transmitting a message from the client device with the slowest latency to other client devices with a delayed link latency that is based on the link latency of the next slowest client device, as required by claims 1 and 8.

In response to argument [a], Examiner respectfully disagrees.

Currently Amended Claim 1 recites:

A method of communicating messages with a plurality of client devices that include one or more wireless devices over a communication link, comprising:

determining a link latency associated with communicating a message with at least one wireless device by informing a client device with slowest link latency of a link latency of a next slowest client device and determining a delayed link latency that is based on the link latency of the next slowest client device; and

adjusting transmission timing of chat messages to synchronize reception of each chat message at the plurality of client devices based on said link latency by transmitting a message from the client device with the slowest latency to other client devices with the delayed link latency and displaying a chat message message originated at the client with slowest latency after a delay that accounts for the delayed link latency.

Applicant's Background of Invention (Spec., pg. 4)

Similar to wired Internet service providers, current wireless implementations transmit chat messages individually to each and every one of the wireless devices that are involved in a chat session, where many participants may be active in a given chat room. Some participants may be communicating over wireless links. These links typically have slower link latency than wired links. Thus, the wireless infrastructure may introduce delivery latency such that the chat messages may be received by the participants at different points in time and even out of order. Therefore, there exists a need for orderly communication of chat messages in a wireless network.

Applicant's Description of Preferred Embodiment (Spec., pgs. 13-14)

According to the present invention, the delivery of chat messages is managed so that participants receive the messages in an orderly manner, preferably, at approximately the same time. Referring to FIG. 8, the flow chart of a method for delivering chat messages in accordance with the present invention is shown. In order to manage message delivery, the chat server 19 determines a link latency associated with a communication link used by one or more wireless devices 13 that participate in a chat session, block 810. The transmission timing of chat messages is adjusted relative in order to provide orderly chat message communication amongst the participants, block 820.

In one exemplary embodiment, the link latency relates to a delay associated with communicating a message with each participant. Generally, the chat server 19 estimates a one-way delay by dividing the roundtrip delay by two. For determining the delay, one exemplary embodiment uses a protocol that tests the reach-ability of destinations by sending them one, or repeated, echo requests and waiting for replies. Preferably, the protocol would work at IP level or another low level protocol for testing whether a remote host is responding or not. One exemplary protocol is the Ping tool, which often responds

even when higher level, TCP-based services cannot respond. Depending on the wireless network, there may be alternate ways to measure link latency. It is also possible that the device could be pre-configured with a latency value which could then be provided to the chat server 19 on login or upon request. Rather than pre-configure, a device could determine its link latency itself.

The chat server 19 can also use a determined delay as a time reference relative to which chat messages are transmitted. The transmission timing of chat messages can then be adjusted relative to such time reference in order to synchronize the communication of chat messages. More specifically, in another exemplary embodiment, a participant with the longest link latency or delay is designated as a pacer participant for an ongoing chat session. The chat messages transmitted to each of the other participants, except, the pacer participant, are delayed by an amount that makes all chat messages arrive at each destination at approximately the same time or otherwise in an orderly manner. However, the timing of the chat messages to or from the pacer participant are not adjusted or delayed.

For example, if transmissions to a pacer participant have a one-way link latency or delay of one minute and transmissions to another participant have a one-way link latency or delay of 0 seconds, then the chat server 19 delays the transmission of all messages to the other participant by one minute. In this manner, the chat messages would arrive at both participants substantially simultaneously. The chat server 19, thus, uses the roundtrip time information to bring all participants to equal footing with regard to latency in an ongoing chat session. This is accomplished by delaying new messages to those participants who have fast links, by enough amount that all participants are equalized from the perspective of message latency.

The chat server 19 can reduce the delivery delay introduced for messages submitted by the pacer participant. Under this arrangement, the pacer participant is informed by the chat server 19 of the one-way latency of the next slowest client device. When the pacer submits a message, the one-way delivery latency target used by the server 19 is reduced to that of the next slowest participant. The pacer participant may then display its own message after a delay that accounts for the reduced delivery latency in use by the chat server 19. All participants get the new message with latency equal to next slowest client device.

The disclosure discloses adjusting the delay of the chat messages based on a longest delay in order to synchronize the arrival of the chat messages.

In other words, the Invention is directed towards the synchronization of the messages and/or communications by determining the longest or highest delay associated with a user and adjusting the delay associated with other users.

Crandall, on the other hand, clearly discloses latency determination by using ping technique, display characterization and equalization of the latencies in order to synchronize the communication (pg. 2 [0032], pg. 3 [0044]).

Specifically, at page 5 [0063-0064], Crandall clearly teaches the process of determining the maximum latency associated with the communication, and adjusting the communication between the partners by assigning each partner a handicap equal to the difference between the maximal amount of latency associated with a partner and the actual amount of latency associated with another partner, and applying this delay to the communication initiated by the partner that is associated with the latency that is slower than the other devices.

Stated another way, Crandall explicitly discloses the process of determining the highest or longest link latency associated with the slowest and/or next slowest partner, i.e. highest link latency associated with the pacer participant according to applicant, see pg. 14 lines 9-11, determines an appropriate delay amount to be adjusted by obtaining the difference based on the link latency of the slowest and next slowest client devices, as indicated above and equalizes and/or adjusts the communication accordingly in order to synchronize the communication among the potential partners because the amount of latency experienced by users are variable (See Crandall, pg. 1 [0004]), i.e. transmits a message and/or signal from a client device with the

Art Unit: 2151

slowest link latency to other client device with a delayed link latency that is based on the next slowest client device (See pg. 4 [0057]).

Overall, the claim suggests using the slowest and next slowest client devices as the base for determining the delay and transmission of signals and/or messages based on the highest delay. The next slowest client device is associated with the longest or highest link delay compared to the slowest client device link latency. Therefore, logically, it would be obvious to determine a delay for adjusting the transmission of messages and/or communication that is based on the slowest client device and the next slowest client device, the process that is clearly disclosed by Crandall.

The benefit for employing such a process in any type of communication system is that it will provide the same amount of latency for different users involved in a relationship over the network (See Crandall, pg. 1 [0005]).

The added delay enables the response times between users to be the same (Crandall, pg. 4 [0049]).

Therefore, the claimed invention in the present application appears to be an obvious modification over the prior art made of record, specifically, over Crandall, because technically, Crandall discloses the utility that is similar to the utility disclosed in present application, i.e. Crandall solves the problem of synchronizing the messages with a plurality of users having variable link latency based on the highest latency.

However, Crandall does not disclose applying the invention to wireless systems. But, wireless systems, specifically, chatting over the wireless networks using the portable wireless devices is common and well known in the art, as evidenced by plurality of cited references.

Art Unit: 2151

As such, the combination of Crandall and Toporek does result in an invention that is similar to claimed invention in the present application. More specifically, Crandall does teach and disclose the process of transmitting a message from the client device with the slowest latency to other client devices with a delayed link latency that is based on the link latency of the next slowest client device, as set forth above.

For the at least these reasons, applicant's argument are considered not persuasive and the REJECTION IS MAINTAINED.

Drawings

The objection with respect to drawings presented in the previous office action is withdrawn due to claim amendments.

Claim Rejections - 35 USC § 112

The 35 U.S.C. 112, second paragraph rejection presented in the previous office action is withdrawn due to claim amendments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-5, 7-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crandall et al. (hereinafter Crandall, US 2002/0107040 A1) in view of Toporek et al. (hereinafter Toporek, US 6,654,344 B1).

As per claim 1, Crandall discloses a method of communicating messages with a plurality of client devices that include one or more devices over a communication link, comprising:

- determining a link latency associated with communicating a message with at least one device by informing a client device with slowest latency of a link latency of a next slowest client device (i.e. informing a client of a higher latency, pg. 5 [0060-0064]) and determining a delayed link latency that is based on the link latency of the next slowest client device (fig. 4 item #300, 360, fig. 5 item #500, 580, fig. 9 item #900, pg. 4 [0053-0057], pg. 5 [0060-0064] and fig. 10); and

- adjusting transmission timing of messages to synchronizing reception of each message at the plurality of client devices based on said link latency (fig. 7 item #760, fig. 9 item #980, pg. 4 [0053-0057]) by transmitting a message from the client device with the slowest latency to other client devices with a delayed latency that is based on the link latency of the next slowest client device (i.e. compensating the amount of higher latency, pg. 4 [0057], pg. 5 [0060-0064]); and displaying a message originated at the client with slowest latency after a delay that accounts for

Art Unit: 2151

the delayed link latency (i.e. displaying message after adding the delay, pg. 3 [0045], pg. 4 [0057], pg. 5 [0060-0064]).

However Crandall does not teach the process of applying his invention to wireless systems, specifically chatting over wireless networks using the wireless devices.

Toporek, from the same field of endeavor explicitly discloses the process and system for enabling chatting over the wireless networks using the wireless devices (fig. 1, fig. 3E, col. 1 L65 to col. 2 L10, col. 2 L65 to col. 3 L5).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Crandall in view of Toporek in order to apply Crandall's teachings in a wireless networks, specially in a chatting environment.

One of ordinary skilled in the art would have been motivated because it would have provided an efficient system of transmitting information for Internet services over the large geographical regions using the wireless communication media (Toporek, col. 2 L60-64). Further, One of ordinary skilled in the art would have been motivated because it would have provided a mechanism for providing the same amount of latency for different users involved in a relationship over the network by latency determination and equalization (Crandall, pg. 1 [0003-0009]).

As per claim 2, Crandall discloses the process wherein the link latency corresponds to a delay associated with communicating a message with at least one device (pg. 3 [0045]).

As per claim 3, Crandall discloses the process wherein the transmission timing of the messages is adjusted by delaying a message transmission in accordance with a time reference derived from the link latency (pg. 3 [0045], pg. 4 [0049]).

Art Unit: 2151

As per claim 4, Crandall discloses the process wherein the transmission timing of the messages is delayed such that the messages arrive at the plurality of client devices within a predetermined time period (pg. 4 [0049]).

As per claim 5, Crandall discloses the process wherein the link latency is determined using a low-level network protocol (i.e. ping tool, pg. 2 [0030-0032]).

As per claim 7, Crandall discloses the process wherein said latency measurement is repeated over time (pg. 3 [0038], fig. 9 and pg. 4 [0058]).

As per claims 8-12 and 14, they do not teach or further define over the limitations in claims 1-5 and 7 (i.e. claims 8-12 and 14 are similar to claims 1-5 and 7, but in different form). Therefore claims 8-12 and 14 are rejected for the same reasons as set forth in claims 1-5 and 7.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Lipa et al., US 6,061,722: Assessing Network Performance without interference with normal network operations.
- b. Feeney et al., US 6,735,635 B1: Dynamic Preamble configuration on a shared bus.
- c. Djennane et al., US 2002/0078154 A1: WAP based instant collaboration tool.
- d. Lipa et al., US 6,061,722: Assessing network performance.
- e. Rajagopal et al., US 2002/0143998 A1: High Accuracy distributed time synchronization.

Art Unit: 2151

f. Knauerhase et al., US 6,215,774 B1: System for dynamically determining effective speed of a communication link.

g. Naidu et al., US 5,805,983: System and Method for Equalizing the delay time for transmission paths in a distributed antenna network.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2151

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Kamal Divecha
Art Unit 2151
May 2, 2007.



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